

METHOD FOR FORMING CVD FILM

## {ABSTRACT}

\_\_\_\_\_The present invention provides a method for forming a uniform thickness vacuum CVD film on a surface of a substrate having a good step coverage and high quality. A process gas is supplied in a process chamber, which is closed by closing an exhaust port ~~by~~through the closing of a pressure control gate valve which is disposed between the process chamber and a vacuum pump. The process gas supply is stopped and ~~a~~deposition on the substrate progresses for a certain period of time in the process chamber under pressure equilibrium closed ~~condition~~conditions. Thereafter or concurrently, in the same process chamber, an oxidizing gas or a nitrifying gas is supplied with a plasma to oxidize or nitrify the formed film. By repetition of several cycles of these steps, a film of a predetermined thickness ~~film~~with a high quality is obtained.